

Application No.: 09/783,598
Amendment Under 37 C.F.R. §1.111 dated March 17, 2004
Reply to the Office Action dated November 17, 2003

REMARKS

Claims 1 – 16 remain pending in the present application. Claims 7 – 16 were withdrawn from consideration. The rejections set forth in the Office Action are respectfully traversed below.

Examiner's Interview

The Applicant appreciates the Examiner's Interview on February 18, 2004. The Applicant looks forward to the Examiner's cooperation in moving the present application forward.

With regard to the rejection of claim 6 under 35 U.S.C. §112, second paragraph, the concepts of compensating for CTE differences were explained at the Examiner's Interview. As recited in claim 6, the insulation material of the insulative substrate includes a material that absorbs or compensates for a difference between the CTE of the insulation material itself and the CTE of the material of the mounted semiconductor component. Such CTE mismatch compensation is described, for example, on page 29 of the present specification. To help clarify this feature, claim 6 was amended to replace the word "absorbs" with the broader term "compensates" to clarify this feature. In view of these explanations, as well as the further detailed explanations of CTE mismatch compensation provided at the Examiner's Interview, it is respectfully requested that the rejection under 35 U.S.C. §112, second paragraph be withdrawn.

With regard to the prior art rejections, it was noted that the Office Action admitted that the cited prior art "do not teach that the post can be anisotropically etched." All the cited prior art to date merely describe conventional features that teach away from and is the exact opposite

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of the present claimed invention. As emphasized in the Examiner's Interview, the present claimed invention (elected apparatus claims 1 – 6) recite posts composed of a material that can be anisotropically etched. This specific material characteristic is not taught or suggested by any of the cited prior art of record. Although anisotropic etching is known in the art, the formation of conventional posts in the prior art do not teach or suggest the present claimed posts composed of a material that can be anisotropically etched. Indeed, the cited prior art teaches away from the present claimed invention because the prior art posts only employ materials that *cannot* be anisotropically etched. This is due, in part, to the fact that prior art forms the through-holes *first, and then* fills-in the holes with the electrically conductive materials (which is the exact opposite of the present invention). The structure of such prior art posts do not employ materials that can be anisotropically etched since the way they are formed do not employ anisotropic etching to make the posts themselves.

In addition, it was emphasized at the Examiner's Interview that the language recited in independent claim 1 specifically avoids interpretation as a product-by-process limitation. In other words, claim 1 does not recite posts that are "formed by" anisotropic etching – which may hypothetically be alleged to be a product-by-process limitation. Instead, the claimed invention recites posts composed of a *material* that *can be* anisotropically etched. This language specifically identifies a *material characteristic* – a *physical attribute* – not a product-by-process limitation.

It was also noted at the Examiner's Interview that such issues regarding CTE mismatch compensation and regarding the material characteristic of the claimed posts, were first raised in the first Office Action dated January 31, 2002 and were successfully overcome by the response

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filed June 24, 2002. Such bases for rejections were not repeated in the second and third Office Actions dated October 4, 2002 and March 12, 2003, respectively. By the explanations and the emphasis provided at the Examiner's Interview, the Applicant looks forward to the Examiner's cooperation in moving the present application forward.

Since the Office Actions already indicated that the cited prior art do not teach or suggest posts composed of a material that can be anisotropically etched, and in view of the fact that the language of claim 1 recites a material characteristic for the posts (specifically avoiding a product-by-process interpretation), it is submitted that the present application is now in condition for allowance. Therefore, an early Notice of Allowance is respectfully requested.

If, for any reason, it is felt that this application is not now in condition for allowance, or if the Examiner wishes additional explanations of the present invention, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that any fees are due in connection with the filing of this paper, please charge any fees to Deposit Account No. 50-2866.

Respectfully submitted,
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